Meeting of the Central Valley Flood Protection Board
July 23, 2010

Staff Report
Norwood Avenue Bridge Replacement Project over Arcade Creek
City of Sacramento, CA

1.0 – ITEM

Consider approval of Permit No. 18617 (Attachment B).

2.0 – APPLICANT

City of Sacramento, Department of Transportation

3.0 – LOCATION

The project is located at Arcade Creek and Norwood Avenue, in Sacramento California. (Arcade Creek, Sacramento County, see Attachment B).

4.0 – DESCRIPTION

The proposed project consists of replacing the existing reinforced concrete slab bridge with a cast-in-place post-tensioned concrete slab bridge. The new bridge will be approximately 350 feet long with two 12-foot wide traffic lanes, two 6-foot wide shoulders/bike lanes, two 8-foot wide sidewalks, and exterior concrete barriers. The proposed new bridge will be constructed 40 feet west of the existing bridge and be supported by a row of pile extensions founded on drilled shaft pile foundations. The abutments will be seat type founded on drilled shaft piles.

5.0 – PROJECT ANALYSIS

The City of Sacramento plans to replace the existing Norwood Avenue Bridge crossing of Arcade Creek. The purpose of the project is to provide a higher and wider bridge that addresses the flood design needs and required bike lanes. The proposed bridge will be raised to reduce flood-related closures, lessen stream flow obstructions, and improve emergency vehicle access during the high water events.

The proposed project consists of replacing the existing reinforced concrete slab bridge with a cast-in-place post-tensioned concrete slab bridge. The new bridge will be approximately350 feet long with two 12-foot wide traffic lanes, two 6-foot wide

shoulders/bike lanes, two 8-foot wide sidewalks, and exterior concrete barriers. The proposed new bridge will meet AASHTO standards, and be constructed approximately 40 feet west of the existing bridge. The new bridge will be supported by a row of pile extensions founded on drilled shaft pile foundations. The abutments will be seat type founded on drilled shaft piles.

Rock slope protection will be placed in sections under the new bridge to stabilize the creek banks and provide erosion control. In areas where vegetation can be established, areas disturbed by the project construction will be re-vegetated.

The current utility lines on the bridge include a 12-inch water line and 4-inch gas line. The utilities would be protected in place during project construction activities or temporarily relocated and transferred onto the new bridge at appropriate phases of the construction.

The majority of construction will occur during the portion of the year outside the rainy season when surface water within Arcade Creek is at its seasonal minimum. Access to the creek channel will be required to construct the new bridge. Work within the channel will include erection and removal of temporary falsework, temporary trestles, and temporary pedestrian bridge

While construction of the new bridge piers and removal of the old bridge piers will occur when the water in the creek will be at its minimum, dewatering may be required when construction work calls for a working area in the creek channel. This will require the installation of cofferdams or steel casings to isolate the small work areas of the creek channel. Cofferdams will be installed using steel sheet piles or steel casing vibrated into place with a vibratory hammer around the perimeter of the drilled shaft. Dewatering material will be processed by either an onsite filtration system and redirected back into the creek, or by transporting the water offsite for treatment.

A permanent access road will be constructed underneath the bridge on the north side of the creek to accommodate trucks and construction equipment related to the proposed project and for levee maintenance. The proposed road will require14 feet of vertical clearance between the road and the proposed bridge soffit. The road will act as a maintenance access for the American River Flood Control District and will cross Norwood Avenue underneath the bridge at the abutment.

The City will restore all levee slopes and roadways to pre-project condition and follow all standards and guidelines as applicable, in Title 23 of the California Water Code for construction activities on levees and within the floodway.

5.1 – Background

In 1998, due to SAFCA's work raising and rebuilding levees as part of the North Local Project, FEMA certified northern Sacramento's flood protection as being able to withstand a 100-year flood.

The Norwood Avenue Bridge was built in 1956, and was recently widened to provide a full width sidewalk on the west side of Norwood Avenue.

5.2 – Hydraulic Analysis

The design hydraulic study for this project was prepared by Pacific Hydrologic Incorporated out of Redding, California and finalized January 15, 2010. The estimated design flow for the 1 percent chance event (100 year storm) is 6,300 cfs. with an under bridge channel velocity of 2.8 feet per second.

A HEC-RAS Model was used to determine the water surface profile within Arcade Creek.

The soffit of the bridge for this project will be raised by approximately 5.5-feet; The freeboard in this area of project channel is 3.28-feet for the 200 year event and 3.29-feet for the 100 year event, therefore, according to Title 23, Section 128(10)(A), since the freeboard above the design flood plane is greater than 3-feet, the project is in compliance with Title 23 Standards.

Pier scour potential is:

Velocity at	Depth of scour
1.6 fps	3.5 feet
2.8 fps	4.3 feet

From Sheet-55 of the consultants plan set, pier series #3 & 4 appear to be the most critical with an above ground exposure of 1/3 of the total column and 2/3 below existing creek bottom to the tip elevation of -50.2 feet which equates to 66.2 feet below ground. Therefore the CIDH (Cast-in-Drilled-Hole) Piles having that depth will not be impacted by 4.3 feet of potential scour.

5.3– Geotechnical Summary

Soil make-up of the existing levees and below the levee prism are:

Elevation	Soil Description	Unified Classification
42.0’ to 30.0’	Silty Sand	SM
30 to 20	Sandy lean clay Sand	CL & SC(Clayey sand)
20 to -10	Silty Sand	SM
-10 to -40	Sandy silt	ML

The impact due to lateral pile soil reaction and surcharge from construction equipment and/or construction materials on the existing levees were evaluated by the Cities consultant TYL International. Slope stability analyses were performed on the typical section using the SLOPE/W program with the following results:

Design Case	Analysis/Approach	Min. Factor of Safety	C.O.E.
Rapid Drawdown	Method Duncan et.al, (1990)	1.0	1.0-1.2
Earthquake	Seismic Coef. =0.06g	1.1	Ok

It is concluded by the consultant that the impact on the existing levees due to the proposed project should be insignificant. The consultant suggests that measures should be handled during construction monitoring of the project that load limits are not surpassed to minimize any potential impacts on the integrity of the existing levees.

All fill, rock placement, excavation, and temporary structures will be completed in compliance with Permit No. 18617 (see Attachment A) and Title 23.

5.4 – Staff Comments

The City was successful in obtaining Federal Highway Bridge Replacement and Rehabilitation (HBRR) Program funds to replace the bridge. Under this program, the federal government will pay 88.53% of the cost of the project, while the City of Sacramento will pay 11.47% of the remaining cost.

Construction will be conducted in two stages in order to maintain traffic flow along Norwood Avenue. The first stage will include construction of a temporary pedestrian bridge east of the existing bridge, removal of a portion of the existing bridge and construction of the new bridge west of the existing structure. Once the temporary pedestrian bridge is in place, pedestrian access will be limited to the existing sidewalks on the east side of Norwood Avenue. Removal of a portion of the existing bridge will begin by removing the existing sidewalks and shifting the existing through lanes to the east. The proposed bridge would then be completed. The second stage includes removal of the existing bridge, and construction of the remaining portion of the roadway approaches.

Construction of the new bridge will require the use of temporary trestles (*a framework of vertical slanting uprights and cross pieces, supporting a bridge*) placed upstream and downstream to provide a stable platform from which to install the new bridge piles. The temporary trestles will be built wide enough to accommodate heavy construction equipment; a minimum working deck width of 36 feet is planned. The trestles will be built out from the approaches on driven steel pile supports. The span lengths for a trestle are typically 20 – 30 feet, and will require four or five piles per support. The piles will be about 18 inches in the greatest dimension and will be either HP pile shapes (*a bearing pile shape having parallel flange surfaces and equal web and flange thickness*) or steel pipe piles depending on the construction contractor who is awarded the project. The trestle piles will be installed with diesel pile-driving hammers.

Construction is anticipated to start this summer 2011 and be completed by the end of the year.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS:

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The U.S. Army Corps of Engineers 208.10 comment letter has not yet been received for this application. Upon receipt of a favorable letter and review by Board staff it will be incorporated into the permit as Exhibit A.
- Sacramento City Council consent for the project dated March 23, 2010 (Exhibit B).
- American River Flood Control permit conditions and recommendation (Exhibit C).

6.1 – Owners of the property on which he project is located

- City of Sacramento
- Sacramento Housing and Redevelopment Agency (SHRA)
- Sacramento Area Flood Control agency (SAFCA)
- Sacramento-San Joaquin Drainage District (SSJDD)
- American River Flood Control District (ARFCD)

7.0 – PROPOSED CEQA FINDINGS:

- Board staff has prepared CEQA findings (see Attachment D) for this project. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

   The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

   The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

   This project has no negative impacts on the State Plan of Flood Control. Both hydraulic and structural impacts from the project construction are negligible.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

   Climate change issues have not been taken into account in the hydraulic analysis for this project; however, it is assumed to be inland past the point tidal influence raises in WSE, and due to the excessive amount of freeboard in the channel at this location, the project would have an ample factor of safety built into it. Climate change WSE raises are only estimated from 6-inches to 1-foot of impact and would be well within the freeboard of this project in the event that tidal influences did reach further inland than expected. There are no other foreseeable projected future events that would impact this project.

9.0 – STAFF RECOMMENDATION

Staff recommends that the Board adopt the CEQA findings, approve the permit conditioned upon receipt and review of a favorable U.S. Army Corps of Engineers 208.10 comment letter and direct staff to file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

A. Resolution No. (None required under consent items)

B. Draft Permit No. 18617

   Exhibit A – U.S. Army Corps of Engineers 208.10 Comment Letter

   Exhibit B – Sacramento City Council Approval

   1. Report to City Council
   2. City Resolution

   Exhibit C – American River Flood Control District Permit Conditions

C. Location Maps and Photos

D. Proposed CEQA findings

E. Norwood Avenue Bridge Replacement cover sheet and table of contents (2 pages)

F. Construction Drawings L-1, L-2, L-3, P-1, P-2, and sheet 53 of 69

G. HEC-RAS Water Surface Cross Section; Figure 13.

H. Photos; Sheets 2 thru 4

Report Completed by:	David R. Williams, P.E.
Design Review:	David R. Williams, P.E.
Document Review:	Dan S. Fua, P.E. – Supervising Engineer
	Len Marino, P.E. – Chief Engineer

DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18617 BD

This Permit is issued to:

City of Sacramento
915 I Street, 2nd Floor
Sacramento, California 95814

To replace existing reinforced concrete slab bridge, approximately 40 feet west of the existing bridge, with a cast-in-place post-tensioned 350-feet-long bridge with two 12-foot-wide lanes, two 6-foot-wide shoulders/bike lanes, two 8-foot-wide sidewalks, and exterior concrete barriers supported on 18-inch-diameter pile extensions founded on drilled shaft pile foundations across the channel of Arcade Creek. The project is located in North Sacramento at the Norwood Avenue Bridge (Section 17&20, T9N, R5E, MDB&M, American River Flood Control District, Arcade Creek, Sacramento County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to

change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18617 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: Prior to demolition and/or construction activities any and all easements, both temporary and permanent, shall be obtained by the applicant.

FIFTEEN: There shall be no plantings within the project area under this permit, except that of native grasses, which may be required for slope protection.

SIXTEEN: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend and hold harmless the State of California, or any departments thereof, from any liability or claims of liability associated therewith.

SEVENTEEN: The Central Valley Flood Protection Board, Department of Water Resources, and the American River Flood Control District shall not be held liable for damages to the permitted encroachment(s) resulting from releases of water from reservoirs, flood fight, operation, maintenance, inspection, or emergency repair.

EIGHTEEN: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

NINETEEN: Prior to start of any demolition and/or construction activities within the floodway, the applicant shall provide the Central Valley Flood Protection Board with two sets of layout plans for any

and all temporary, inchannel cofferdam(s), gravel workpad(s), work trestle(s), scaffolding, piles and/or other appurtenances that are to remain in the floodway during the flood season from November 1 through April 15.

TWENTY: Debris that may accumulate on the permitted encroachment(s) and/or any temporary falsework within the floodway shall be cleared off and disposed of outside the floodway after each period of high water.

TWENTY-ONE: The permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

TWENTY-TWO: Temporary staging, formwork, stockpiled material, equipment, and temporary buildings shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-THREE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

TWENTY-FOUR: Fill material shall be placed only within the area indicated on the approved plans.

TWENTY-FIVE: Backfill material for excavations shall be placed in 4- to 6-inch layers and compacted to at least the density of the adjacent, firm, undisturbed material.

TWENTY-SIX: Density tests by a certified materials laboratory will be required to verify compaction of backfill within the floodway.

TWENTY-SEVEN: The soffit of the bridge shall provide a minimum freeboard of 3-feet above the design flood elevation.

TWENTY-EIGHT: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

TWENTY-NINE: Revetment shall be quarry stone or cobbles and shall at least meet the following grading:

Quarry Stone		Cobbles	
Stone Size	Percent Passing	Stone Size	Percent Passing
15 inches;	100	15 inches;	100
8 inches;	80-95	10 inches;	55-95
6 inches;	45-80	8 inches;	35-65
4 inches;	15-45	6 inches;	10-35
2 inches;	0-15	3 inches;	1-5

THIRTY: The revetment shall not contain any reinforcing steel, floatable, or objectionable material.

Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

THIRTY-ONE: The recommended minimum thickness of revetment, measured perpendicular to the bank or levee slope, is 18 inches below the usual water surface and 12 inches above the usual water surface.

THIRTY-TWO: All debris generated by this project shall be disposed of outside the floodway.

THIRTY-THREE: The work area shall be restored to the condition that existed prior to start of work.

THIRTY-FOUR: The permittee shall submit as-built drawings to the Department of Water Resources' Flood Project Inspection Section upon completion of the project.

THIRTY-FIVE: If the project result(s) in an adverse hydraulic impact, the permittee shall provide appropriate mitigation measures, to be approved by the Central Valley Flood Protection Board, prior to implementation of mitigation measures.

THIRTY-SIX: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent further erosion.

THIRTY-SEVEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

THIRTY-EIGHT: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

THIRTY-NINE: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

FORTY: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

FORTY-ONE: The permittee shall comply with all conditions set forth in the letter from the U.S. Army Corps of Engineers when it is received, which shall be attached to this permit as Exhibit A and incorporated by reference.

FORTY-TWO: The permittee shall comply with all conditions set forth in the letter from Sacramento City Council dated March 23, 2010, which is attached to this permit as Exhibit B and is incorporated by reference.

FORTY-THREE: The permittee shall comply with all conditions set forth in the letter from American River Flood Control District dated June 10, 2010, which is attached to this permit as Exhibit C and is incorporated by reference.

REPORT TO COUNCIL
City of Sacramento

915 I Street, Sacramento, CA 95814-2604
www. CityofSacramento.org

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CONSENT
March 23, 2010

Honorable Mayor and
Members of the City Council

Title: Norwood Avenue Bridge Replacement Project (T15068400)

Location/Council District: Norwood Avenue Bridge at Arcade Creek between Fairbanks Avenue and Lindley Avenue. Location map – Exhibit A of Resolution. (District 2)

Recommendation: Adopt a **Resolution**: 1) approving the conceptual design plans, and 2) approving the Mitigated Negative Declaration and the Mitigation Reporting Plan for the project.

Contact: Ricky Chuck, Senior Engineer, (916) 808-5050; Tim Mar, Supervising Engineer, (916) 808-7531

Presenters: None

Department: Transportation

Division: Engineering Services

Organization No: 15001131

Description/Analysis

Issue: The project will replace the structurally deficient Norwood Avenue Bridge over Arcade Creek with a new bridge that meets current standards. The project will construct a new and higher concrete bridge with two travel lanes, bike lanes, sidewalks, and street lighting.

Approval of the conceptual design plans and adoption of the Mitigated Negative Declaration and Mitigation Reporting Plan are necessary to move forward with completing the final design and comply with the California Environmental Quality Act.

Policy Considerations: This action requested herein is consistent with the Sacramento City Code, Title 3 and with the City of Sacramento Strategic Plan goals of improving and expanding public safety and enhancing livability.

Environmental Considerations:

California Environmental Quality Act (CEQA): The Community Development Department, Environmental Planning Services has prepared an Initial Study and Mitigated Negative Declaration for the proposed project. City Council approved the 2030 General Plan and certified the Master Environmental Impact Report (Master EIR) on March 3, 2009. The project was included in the Master EIR, and the Initial Study prepared for the project examines the project for the purpose of identifying any additional significant environmental effects, or project-specific effects, that could occur with the project and that were not examined in the Master EIR.

The project-specific effects that the City has identified that were not covered in the Master EIR include transportation and circulation, biological resources, hazards, and cultural resources. In compliance with Section 15070(B) 1 of the California Environmental Quality Act (CEQA) Guidelines, the City has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where clearly no significant impacts will occur.

The Mitigated Negative Declaration was distributed through the State Clearinghouse (SCH# 2010022016) and was available for public review during the period of February 4, 2010 through March 8, 2010. As of the writing of this report, one comment letter regarding the project has been received. The comment letter, from the Sacramento Area Bicycle Advocates (SABA), is attached to this staff report. SABA comments on the importance of planning for the Arcade Creek bike path and consideration of general plan policies. The project will accommodate future bike path improvements when planning and financing arrangements are in place, and the letter therefore identifies no new impacts. Staff has contacted SABA to discuss the comment.

The project is funded by Federal Highway Bridge Replacement and Rehabilitation (HBRR) Program funds. As a result, the proposed project is also subject to the National Environmental Policy Act (NEPA). NEPA studies are currently under review with the State Department of Transportation and the Federal Highway Administration. These agencies will take their respective actions.

Sustainability Considerations: This project is consistent with the City's Sustainability Master Plan. It conforms to the Air Quality Focus Area by improving and optimizing transportation infrastructure.

Other: None

Commission/Committee Action: None

Rationale for Recommendation: Approval of the conceptual design plans and adoption of the Mitigated Negative Declaration and Mitigation Reporting Plan are necessary to move forward with completing the final design and comply with the California Environmental Quality Act.

Financial Considerations: The current project budget is $1,292,359. The budget is comprised of $230,000 in Major Street Construction Tax (Fund 2007) and $1,062,359 in Federal Capital Grant (Fund 3703) funds. As of February 18, 2010, the project has an unobligated balance of $244,097, which is sufficient to complete the design. There are no General Funds planned or allocated to this project.

Emerging Small Business Development (ESBD): No goods or services are being procured at this time.

Respectfully Submitted by: _____
Nicholas Theocharides
Engineering Services Manager

Approved by: _____ for
Jerry Way
Director of Transportation

Recommendation Approved:

_____
Gus Vina
Acting City Manager

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Attachment 3

RESOLUTION NO. 2010-173
April 1, 2010

Adopted by the Sacramento City Council

APPROVING CONCEPTUAL DESIGN PLAN AND ADOPTING MITIGATED NEGATIVE DECLARATION AND MITIGATION REPORTING PLAN FOR THE NORWOOD AVENUE BRIDGE REPLACEMENT PROJECT (T15068400)

BACKGROUND

A. The project will replace the structurally deficient Norwood Avenue Bridge over Arcade Creek with a new bridge that meets current standards. The project will construct a new and higher concrete bridge with two travel lanes, bike lanes, sidewalks, and street lighting and a new approach roadway between the intersections of Fairbanks Avenue and Lindley Way. Retaining walls will be constructed on both approaches in order to support the increase in profile grade. The bridge was constructed in 1945 and is rated structurally deficient. Arcade Creek has a history of elevated water levels that inundate the bridge. During high canal flows, Norwood Avenue had to be closed by using stop log floodwalls. This project will eliminate the need for road closure during high canal flows.

B. The City of Sacramento has prepared an Initial Study and Mitigated Negative Declaration for this project.

C. The Initial Study and Mitigated Negative Declaration have been circulated for public review and comment from February 4, 2010 through March 8, 2010 pursuant to the California Environmental Quality Act (CEQA).

D. On the basis of the whole record before it, including the Initial Study and all comments received, the City has determined that there is no substantial evidence that the project, with mitigation measures as identified in the Initial Study, will have a significant effect on the environment.

E. The Mitigated Negative Declaration reflects the City's independent judgment and analysis.

F. In accordance with Section 21081.6 of the California Public Resources Code, the City of Sacramento requires that a Mitigation Reporting Plan be developed for implementing mitigation measures as identified in the Initial Study for the project.

G. The Environmental Manager has prepared a Mitigation Reporting Plan for ensuring compliance and implementation of the mitigation measures as prescribed in the Initial Study for the project.

H. The record of proceedings upon which this decision is based is on file on the Office of the City Clerk.

BASED ON THE FACTS SET FORTH IN THE BACKGROUND, THE CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. The conceptual design plan for the project is approved.

Section 2. The Mitigated Negative Declaration and Mitigation Reporting Plan for the Norwood Avenue Bridge Replacement Project (T15068400) are adopted.

Section 3. Exhibits A through D are incorporated into and made part of this resolution.

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AMERICAN RIVER FLOOD CONTROL DISTRICT

Permit Conditions

Permit Application No.: (to be designated by the Central Valley Flood Protection Board)

Location: Arcade Creek South Levee at Norwood Avenue

Applicant: City of Sacramento

Description: Replace existing Norwood Avenue bridge crossing of Arcade creek with a newly constructed bridge. Work will include placing a 12-inch water line and 4-inch gas line along the bridge deck and through the levee section.

CONDITIONS:

1. Maintenance of all encroaching facilities under this permit shall remain the responsibility of permittee.

2. Permittee shall obtain all necessary permits and regulatory approvals for the proposed work.

3. Permittee may be required, at permittee's sole cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted work if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if encroaching facilities are damaged by any cause.

4. Work shall be done outside of the flood season of November 1 to April 15 unless otherwise approved by the District and Central Valley Flood Protection Board.

5. Permittee shall notify the District one week in advance of the start of construction.

6. Permittee shall allow access of ARFCD levee maintenance personnel and equipment during the construction period.

7. That temporary staging, material stockpiles, and equipment shall not be placed or allowed to remain in the floodway during the flood season from November 1 to April 15.

8. Roadway drainage shall not be directed to flow water on the levee section without adequate protection from erosion.

voice 916-929-4006 fax 916-929-4160

165 Commerce Circle, Suite D,
Sacramento, California 95815

9. The District reserves the right to review all final plans and specifications and request modifications to the project during construction as field conditions warrant.

10. Permittee may not use the levee crown for staging construction or storing materials without specific approval by the District. If approved by the District, the levee crown shall be fully restored to its pre-project condition to the satisfaction of the District. In addition, if adverse weather conditions are forecast or other emergency condition arises, the Permittee shall immediately remove any equipment or materials stored on the levee and restore the levee surface for all-weather access to the satisfaction of the District.

11. In the event that erosion occurs at the project site, the applicant shall repair the eroded areas and place adequate Best Management Practice features on the levee sections to prevent further erosion.

12. Levee sections, overflow areas, and channel shall be restored to at least the same condition that existed prior to construction.

American River Flood Control District

CA Central Valley Flood Protection Board Permit Application
Norwood Avenue Bridge Replacement at Arcade Creek

Staff Report

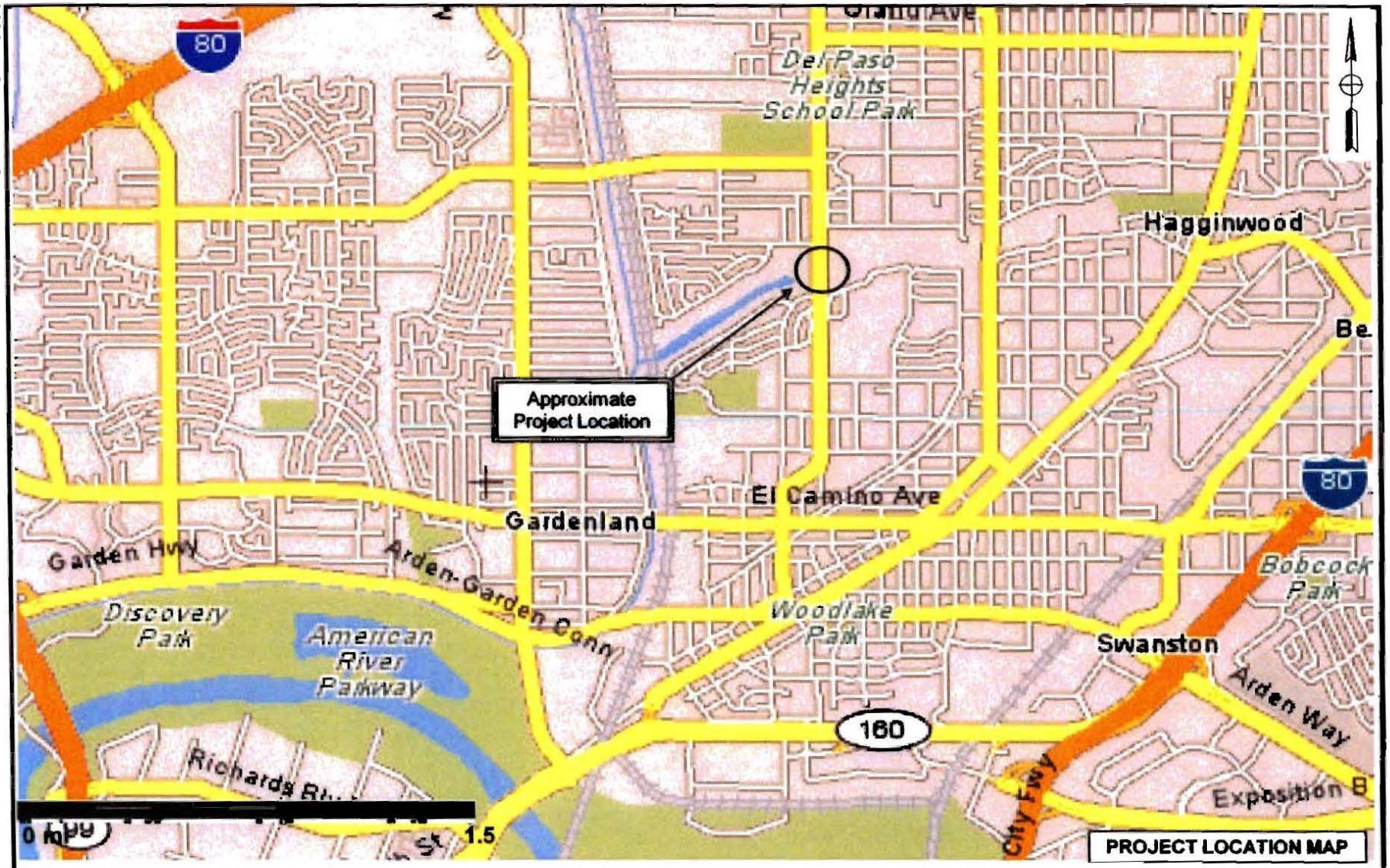
Discussion:
The City of Sacramento submitted a permit application for replacing the existing Norwood Avenue bridge crossing of Arcade Creek. The work will consist of replacing a 350-foot long bridge deck across Arcade Creek. The City of Sacramento will restore all levee slopes and roadways to pre-project conditions and follow all standards and guidelines listed in Title 23 of the California Water Code for construction activities on levees.

The work will occur in two phases. The first phase will consist of constructing a pedestrian crossing east of the existing bridge and installing the new bridge span just west of the existing bridge. The second phase will consist of removing the existing bridge, removing the pedestrian bridge, and completing all levee and roadway approaches.

The proposed construction will start in Spring 2011 and will continue through Fall 2011. District access may be limited during construction.

Recommendation:
It is the recommendation of the General Manager that the Board endorse the permit application with the attached Special Conditions.

ATTACHMENT C - Location Map



PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

NORWOOD AVENUE BRIDGE REPLACEMENT PROJECT
SACRAMENTO, CALIFORNIA

JOB NO.: 207137.10

PLATE NO.: 1

Vicinity Map
Scale: 1" = 500'

Norwood Ave Bridge Replacement Project over Arcade Creek *Sheet 1*
City of Sacramento *6/7/2010*

PROPOSED CEQA FINDINGS

Board staff has prepared the following CEQA Findings:

The Board, acting as a responsible agency under CEQA, has independently reviewed the Initial Study/Mitigated Negative Declaration (IS/MND, January 2010), Mitigation Reporting Plan, and the Sacramento City Council Resolution 2010-173 for the Norwood Avenue Bridge Replacement Project (SCH No. 2010022016) prepared by the lead agency, the City of Sacramento. These documents, including the project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at http://www.cvfpb.ca.gov/meetings/2010/7-22-23-2010agenda.cfm under a link for this agenda item.

The City of Sacramento determined that the project would not have a significant effect on the environment and adopted the Mitigated Negative Declaration at the City of Sacramento Council Meeting on April 1, 2010. Subsequently, the City of Sacramento filed a Notice of Determination with the State Clearinghouse and Sacramento County Clerk on April 7, 2010. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's Mitigation Reporting Plan and address impacts to biological resources, cultural resources, hazards and hazardous materials, and transportation. The description of the mitigation measures are further described in the adopted Mitigation Reporting Plan.

Encroachment Permit

Norwood Avenue Bridge Replacement Project over Arcade Creek

Prepared for:

Central Valley Flood Protection Board (CVFPB)

American River Flood Control District (ARFCD)

U.S. Army Corps of Engineers (USACE)

June 14, 2010

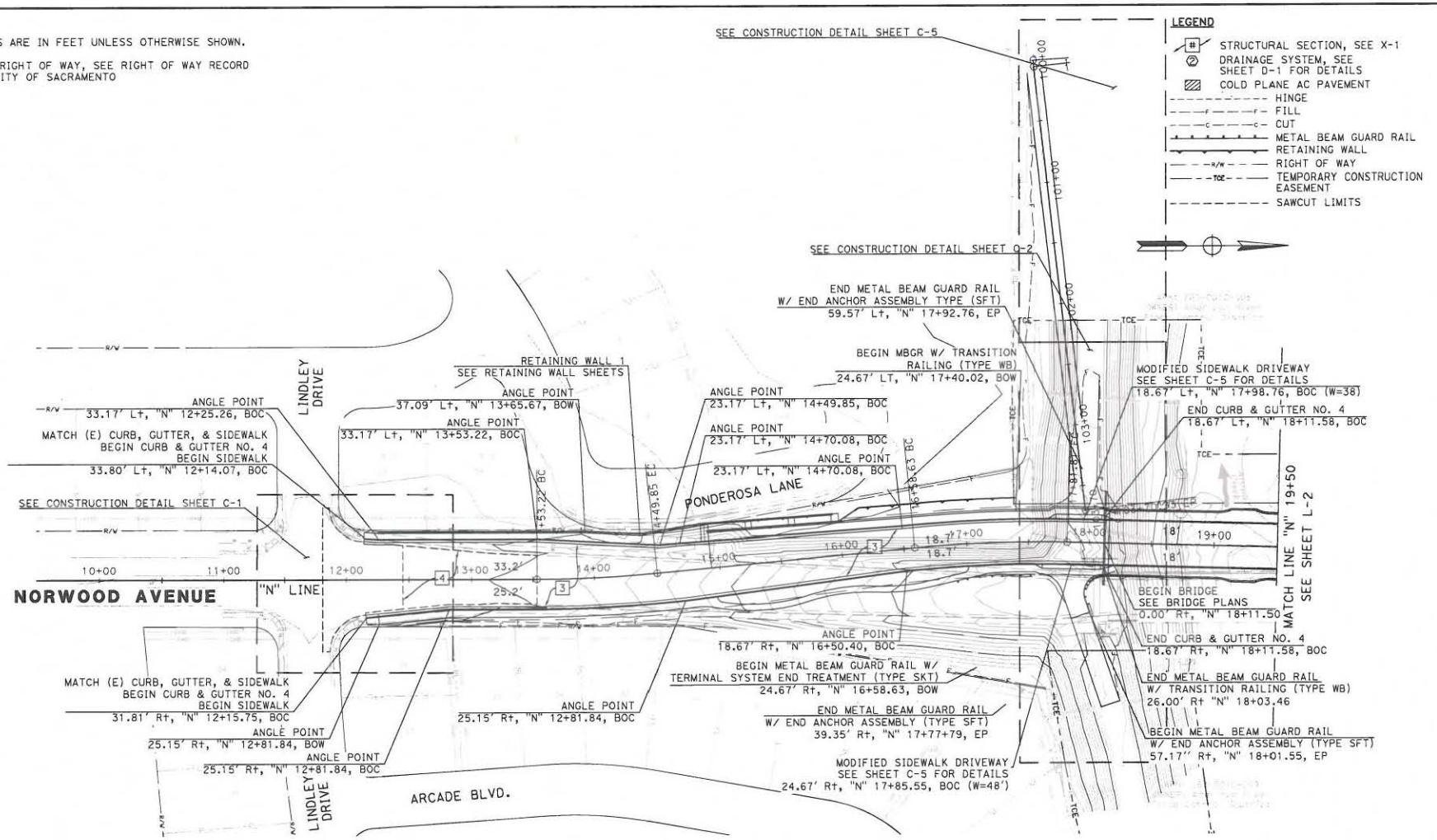
Department of TRANSPORTATION City of Sacramento

T·Y LIN INTERNATIONAL

Appendix
Table of Contents

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.
2. FOR COMPLETE RIGHT OF WAY, SEE RIGHT OF WAY RECORD MAPS AT THE CITY OF SACRAMENTO



Norwood Ave Bridge Replacement Project over Arcade Creek
City of Sacramento

L-1
Sheet
6/7/2010
Scale: 1" = 40

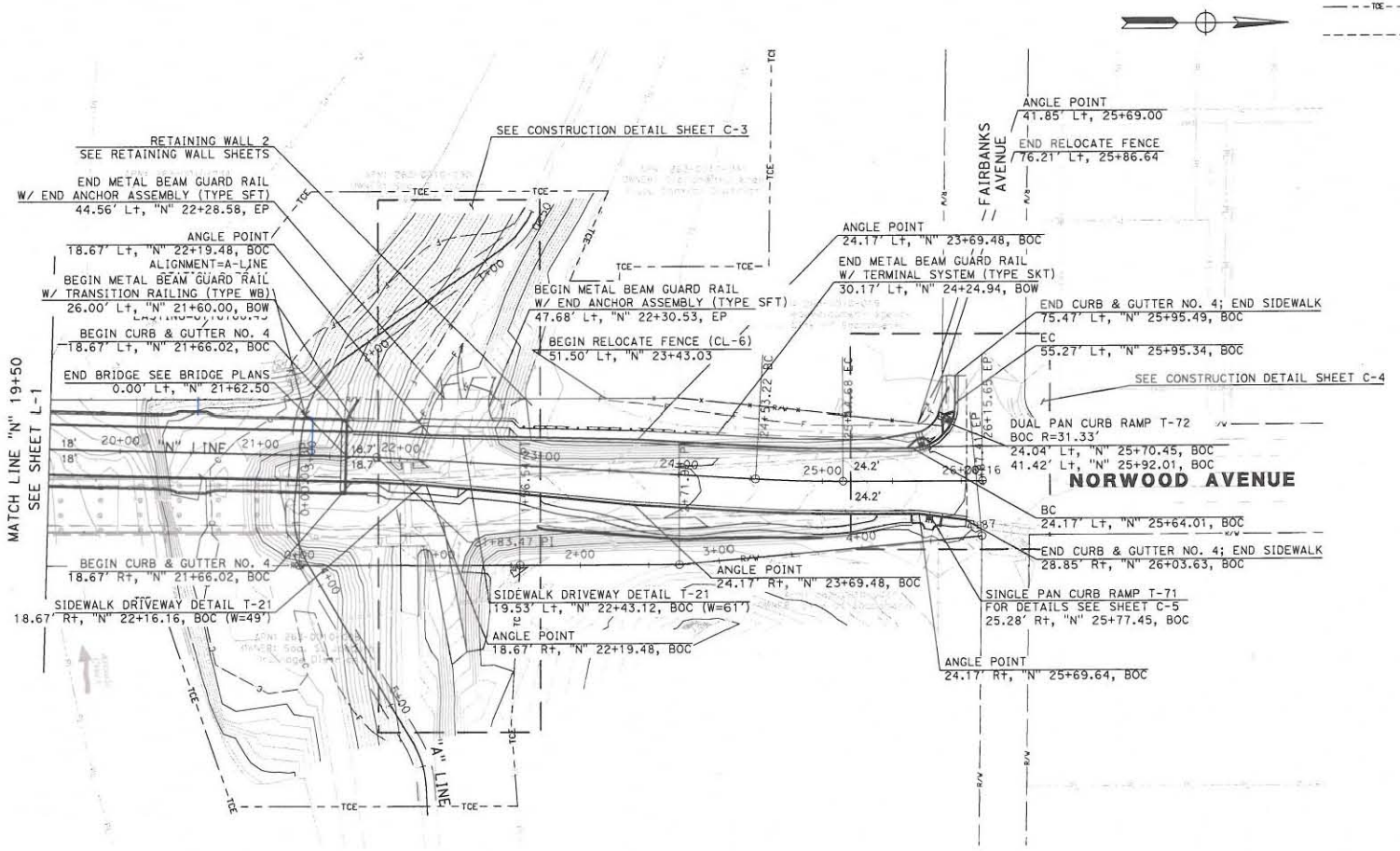
ATTACHMENT F -Dwg. L-1

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.
2. FOR COMPLETE RIGHT OF WAY, SEE RIGHT OF WAY RECORD MAPS AT THE CITY OF SACRAMENTO

LEGEND

- STRUCTURAL SECTION, SEE X-1
- DRAINAGE SYSTEM, SEE SHEET D-1 FOR DETAILS
- COLD PLANE AC PAVEMENT
- HINGE
- FILL
- CUT
- METAL BEAM GUARD RAIL
- RETAINING WALL
- RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- SAWCUT LIMITS



Norwood Ave Bridge Replacement Project over Arcade Creek
City of Sacramento

L-2
Sheet
6/7/201
Scale: 1" = 4

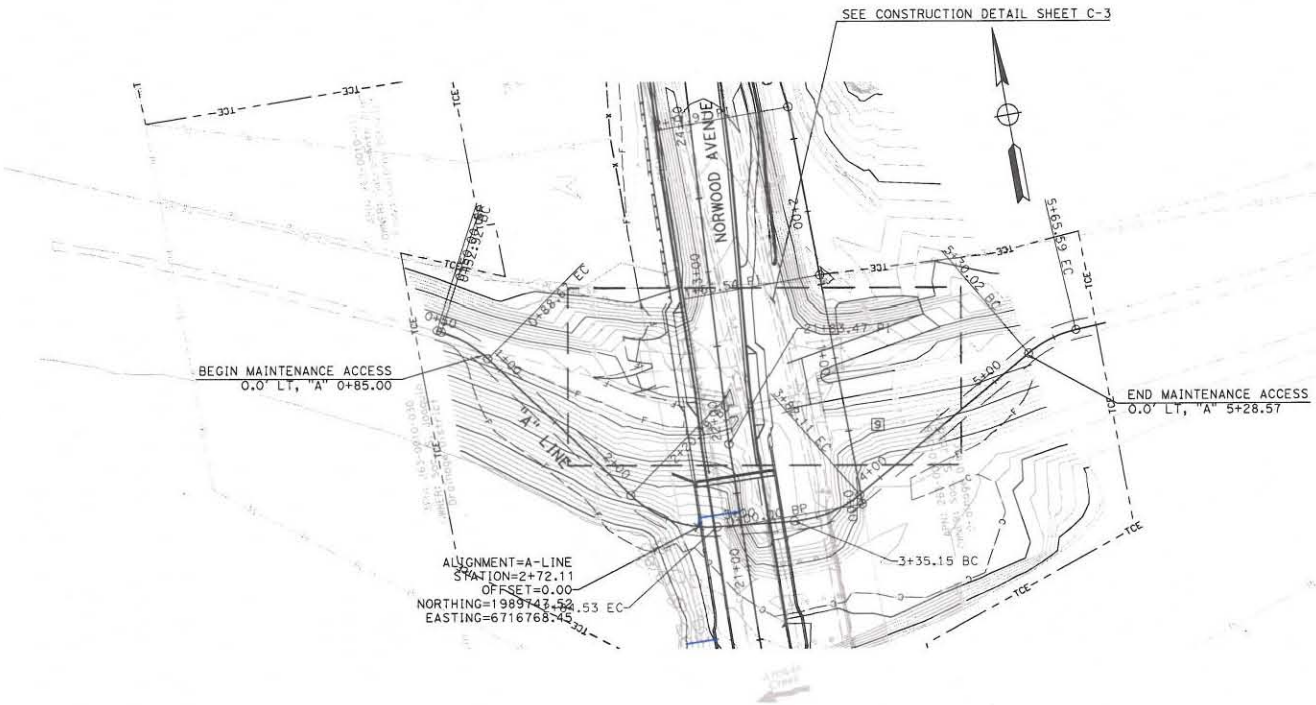
ATTACHMENT F -Dwg. L-2

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.
2. FOR COMPLETE RIGHT OF WAY, SEE RIGHT OF WAY RECORD MAPS AT THE CITY OF SACRAMENTO

LEGEND

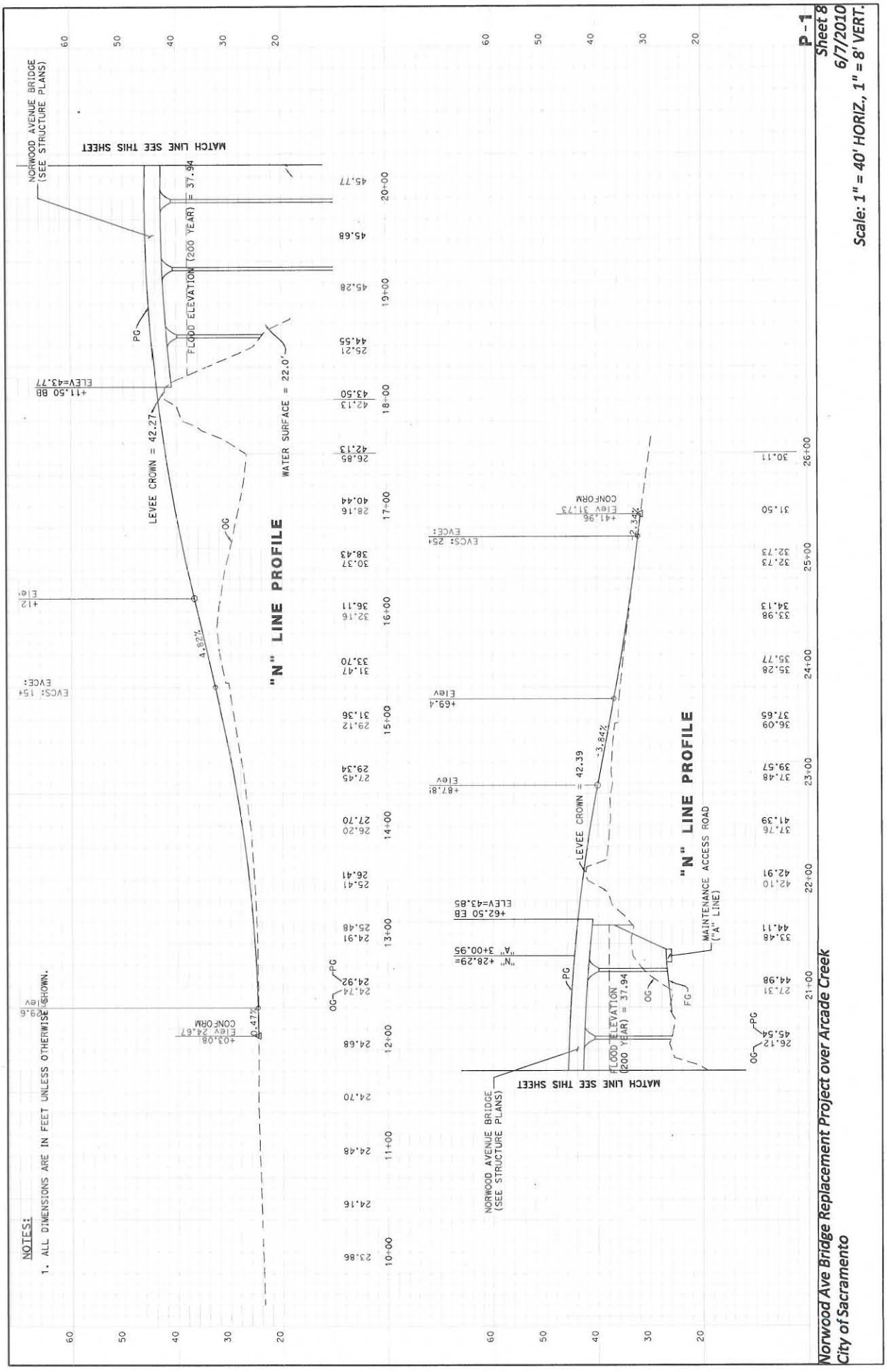
- STRUCTURAL SECTION, SEE X-1
- DRAINAGE SYSTEM, SEE SHEET D-1 FOR DETAILS
- COLD PLANE AC PAVEMENT
- HINGE
- FILL
- CUT
- METAL BEAM GUARD RAIL
- RETAINING WALL
- RIGHT OF WAY
- TEMPORARY CONSTRUCTION EASEMENT
- SAWCUT LIMITS



Norwood Ave Bridge Replacement Project over Arcade Creek
City of Sacramento

L-3
Sheet 7
6/7/2010
Scale: 1" = 40'

ATTACHMENT F -Dwg. L-3


P-1
Sheet 8
6/7/2010
Scale: 1" = 40' HORIZ., 1" = 8' VERT.
Norwood Ave Bridge Replacement Project over Arcade Creek
City of Sacramento
NOTES:
1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.
"N" LINE PROFILE
"N" LINE PROFILE
NORWOOD AVENUE BRIDGE (SEE STRUCTURE PLANS)
MATCH LINE SEE THIS SHEET
FLOOD ELEVATION (200 YEAR) = 37.94
LEVEE CROWN = 42.27
WATER SURFACE = 22.0'
LEVEE CROWN = 42.39
MAINTENANCE ACCESS ROAD ("A" LINE)
CONFORM
EVCS: 154
EVCS: 254
PG
OG
FG
4.82%
-3.84%
-2.34%
-0.47%
+11.50 BB ELEV=43.77
+62.50 EB ELEV=43.85
"N" +28.29=
"A" 3+00.95
+03.08 ELEV 24.67
+41.96 Elev 31.73
+69.4 Elev
+87.8 Elev
+12 Elev
49.6 Elev
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+00
18+00
19+00
20+00
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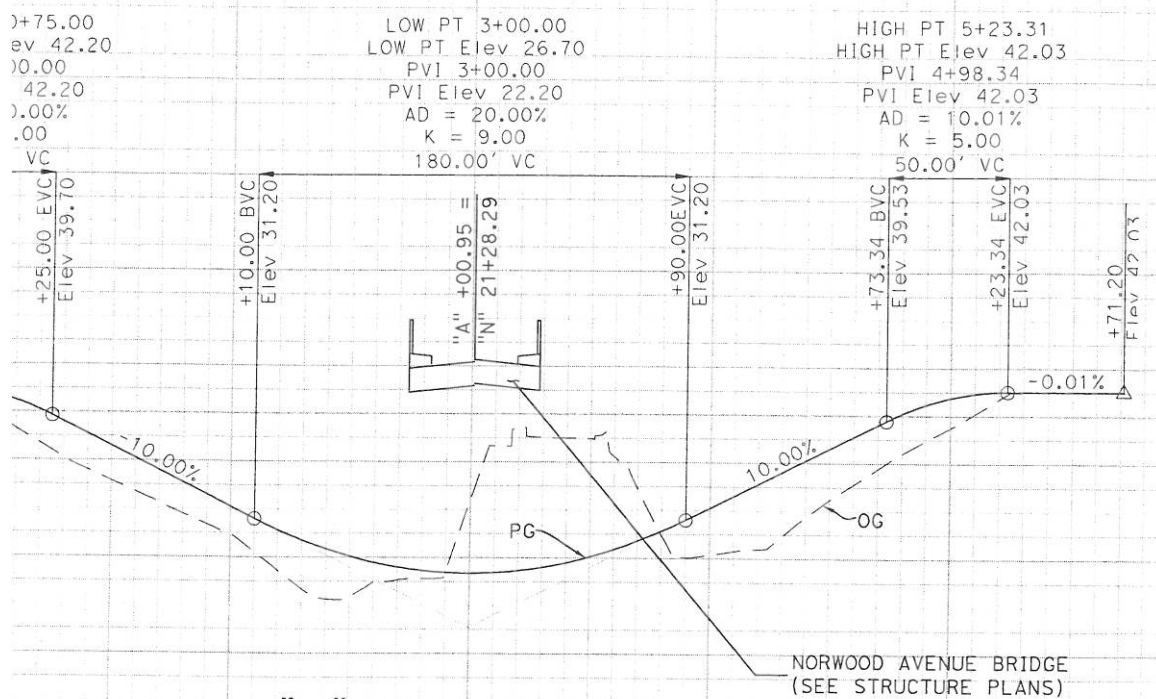
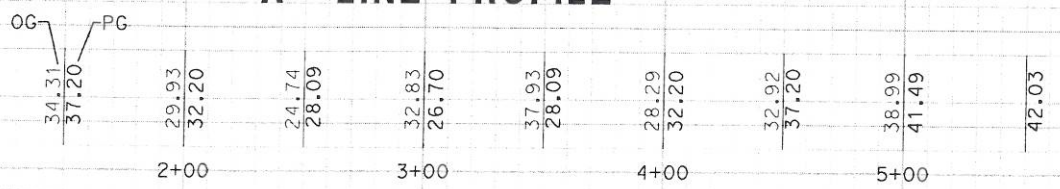
22+00
23+00
24+00
25+00
26+00

NOTES:

1. ALL DIMENSIONS ARE IN FEET UNLESS OTHERWISE SHOWN.



"A" LINE PROFILE



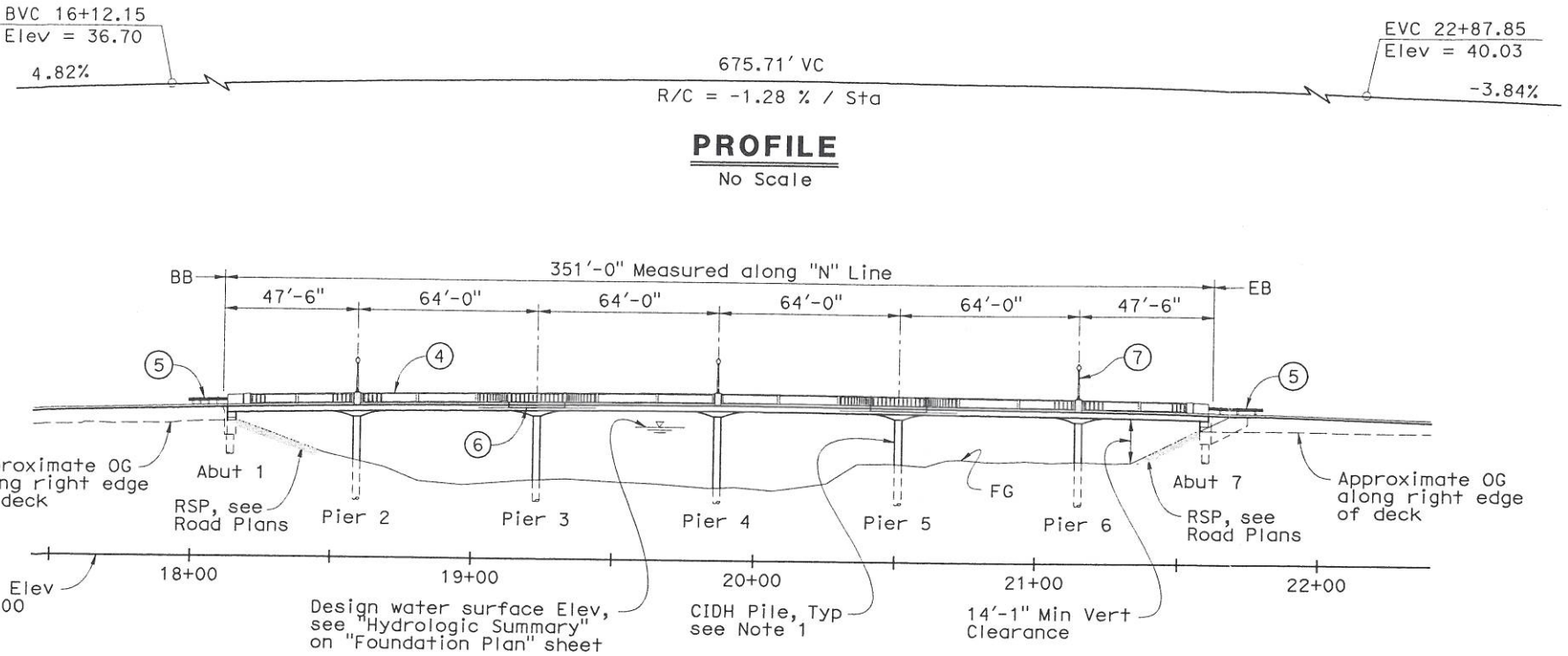
90% PROGRESS PLOT 6/7/2010, NOT FOR CONSTRUCTION

ATTACHMENT F -Dwg. P-2

P-2

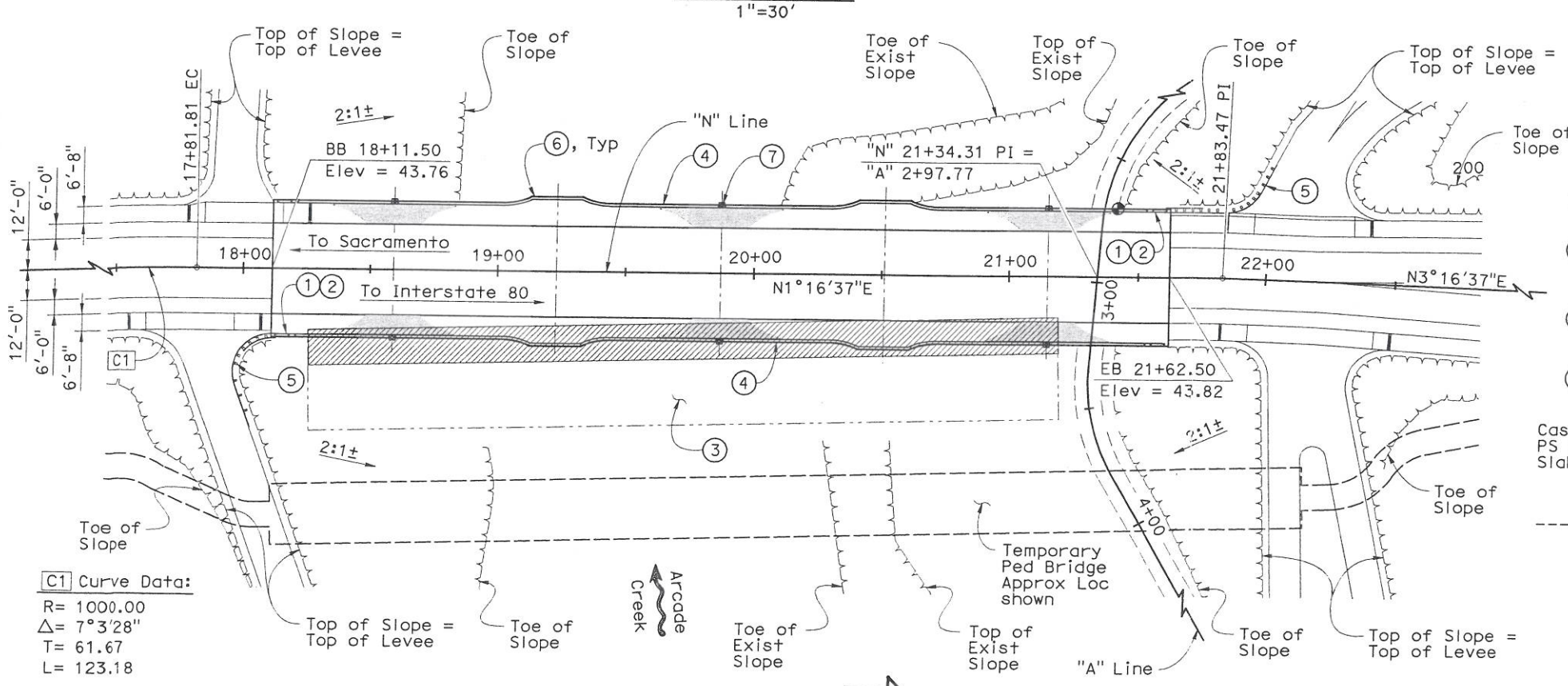
DATE	BY	DESCRIPTION

BENCH MARK ELEV. 38.627 | FIELD BOOK #### | CITY OF SACRAMENTO | TY LIN INTERNATIONAL | IMPROVEMENT PLANS FOR | SHEET



PROFILE
No Scale

ELEVATION
1"=30'



C1 Curve Data:
R= 1000.00
Δ= 7°3'28"
T= 61.67
L= 123.18

PLAN
1"=30'

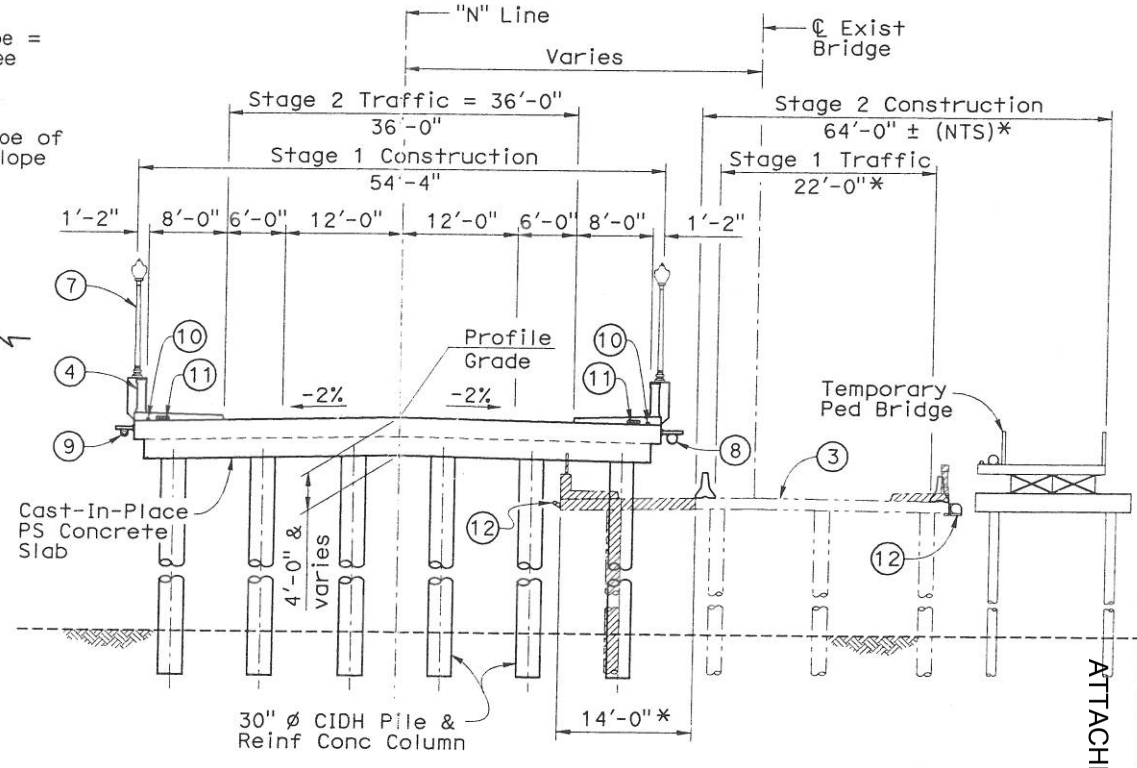
Legend:

1. Paint "Norwood Avenue Bridge"
2. Paint Bridge No. and year constructed
3. Exist RC slab bridge with PCC piles, to be removed
4. Concrete Barrier (Texas Type C411) (Mod)
5. Metal beam guard railing, see Road Plans
6. Concrete overlook, Total 4 locations
7. City of Sacramento Light Standard, total 6 locations
8. Water: 12" welded steel pipe, epoxy coated
9. Gas: 4" steel pipe in 8" steel casing
10. Electrical: 2" ø PVC SCH 40, total 2
11. Future Use: 4" ø PVC SCH 40, total 4
12. Exist utility to be removed and reinstalled on new structure

- ---- - Indicates existing bridge
- —— - Indicates new structure
- Indicates remove portion of Exist Bridge & foundation during Stage 1 Construction
- Indicates Architectural Surface (Type I) see "Architectural Details" sheet
- Indicates Point of Minimum Vertical Clearance

Notes:

1. For Pile Data Table, see "Foundation Plan" sheet.
2. For Index to Plans and General Notes, see "Deck Contours" sheet.
3. For "A" Line data, see Road Plans.



* Measured perpendicular to centerline of existing bridge.

TYPICAL SECTION
1"=10'-0"

NOTE:
The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

REVISIONS NO.	DESCRIPTION	DATE	BY

BRIDGE NO. 24C-0080

CITY OF SACRAMENTO
DEPARTMENT OF PUBLIC WORKS

DRAWN BY: K. Pope — DATE 3/18/2010
DESIGNED BY: C. Hodge — R.C.E. — DATE 3/18/2010
CHECKED BY: — R.C.E. — DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

T·Y LIN INTERNATIONAL
3301 C Street, Building 100-M
SACRAMENTO, CA 95816

IMPROVEMENT PLANS FOR
NORWOOD AVE BRIDGE
GENERAL PLAN

SHEET 53 OF 69

90% PROGRESS SET 6/7/2010, NOT FOR CONSTRUCTION

ATTACHMENT F - Dwg Sht 53

USERNAME => kpope
DATE PLOTTED => 6/7/2010

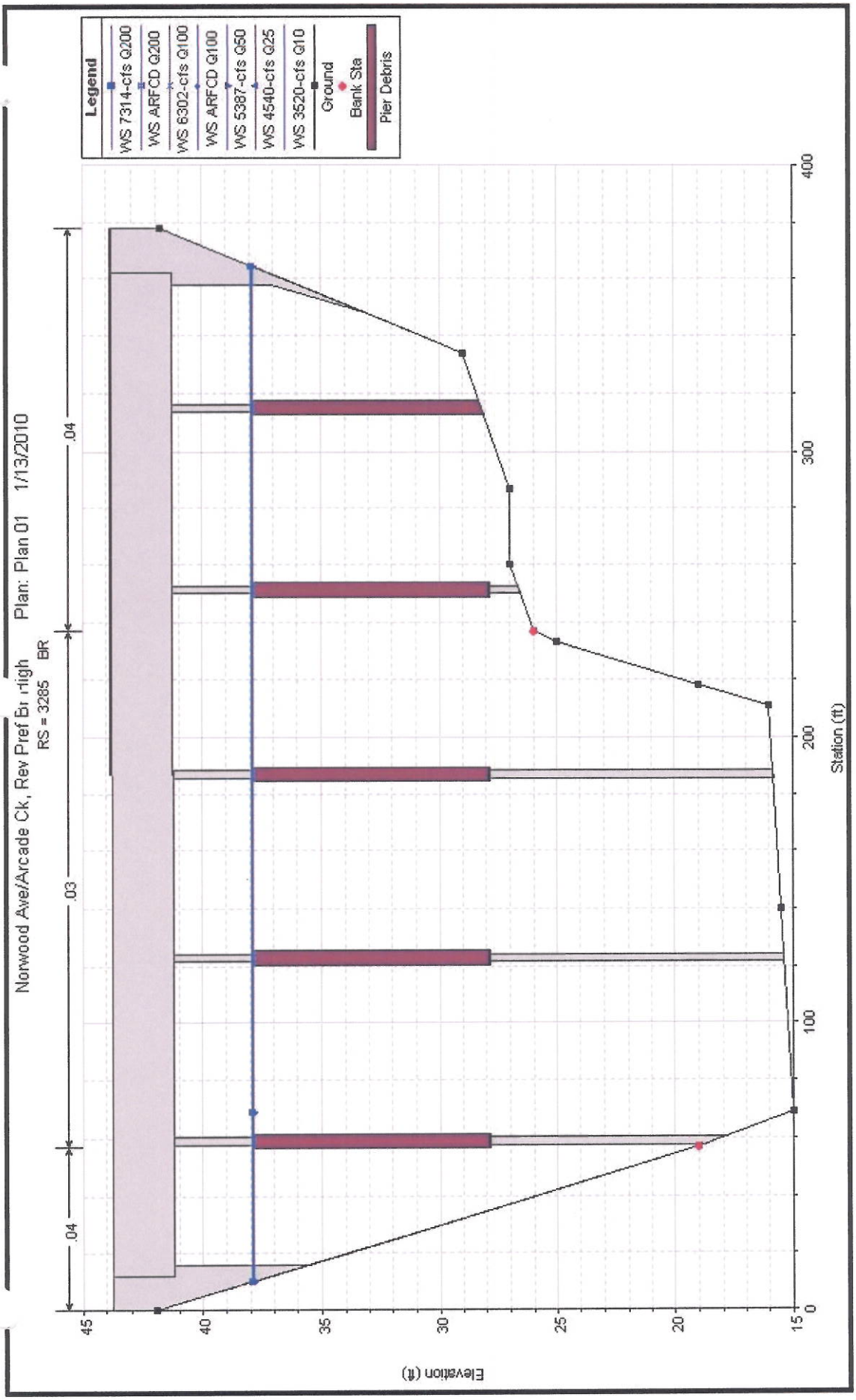


Figure 13: Preferred Bridge as Represented in Backwater Model

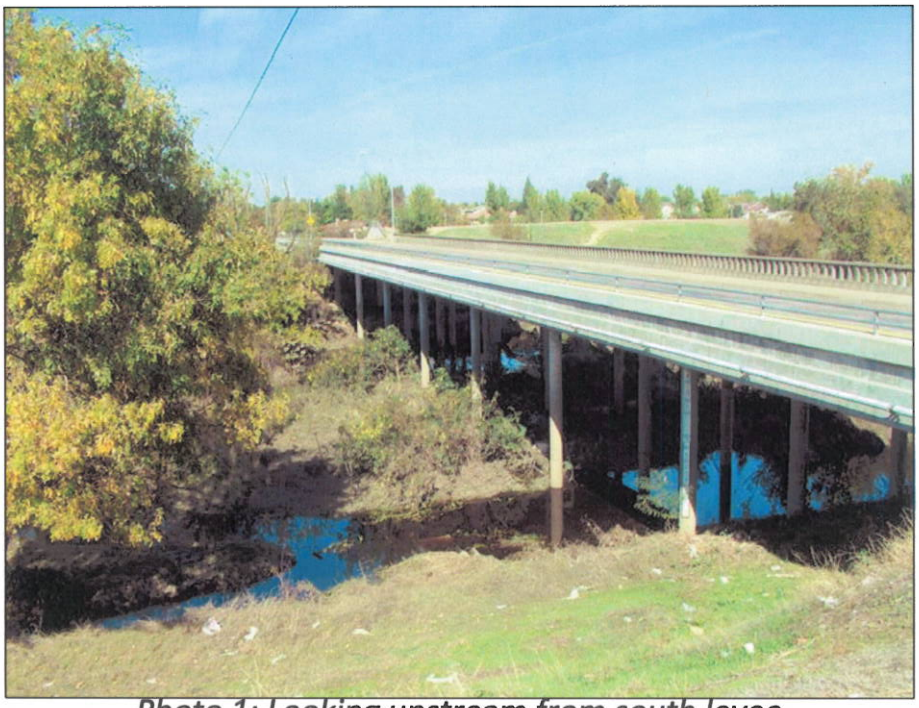


Photo 1: Looking upstream from south levee

Photo 2: Looking south from bridge sidewalk

Site Photos

Norwood Ave Bridge Replacement Project over Arcade Creek
City of Sacramento

Sheet 2
6/7/2010

Photo 3: Looking downstream from north levee

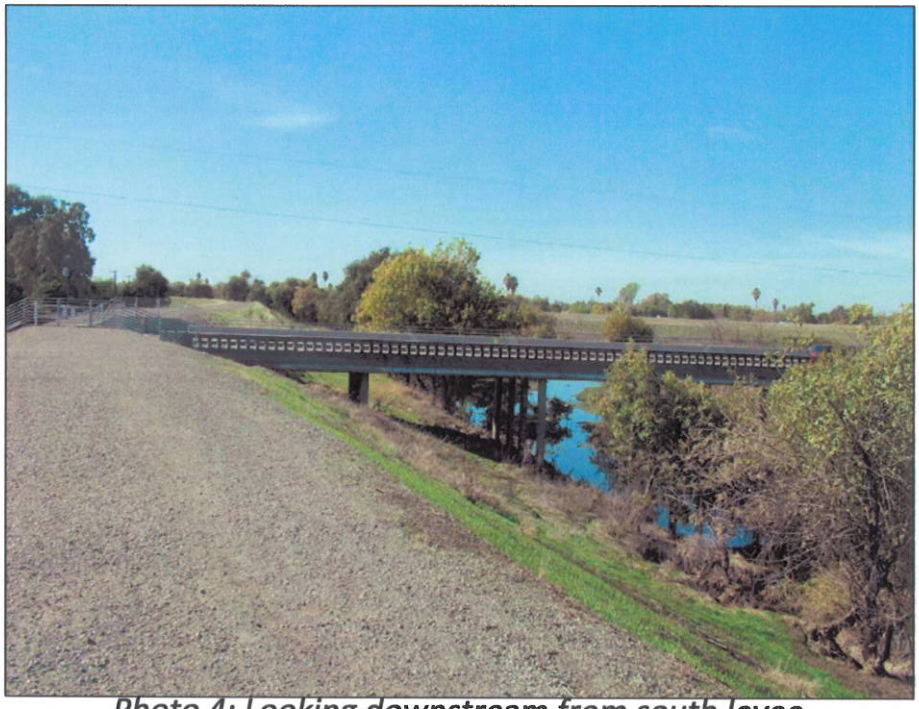


Photo 4: Looking downstream from south levee

Site Photos